

*Legionnaires Disease in Europe.*  
*Infectious Disease Notifications Ireland.*  
*Survey of MRSA in Hospitals.*  
*HIV/AIDS in Ireland.*  
*Immunisation Uptake in Ireland.*



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## IN THE NEWS!

### Legionnaires' Disease-a European perspective

In 1999, a population base of 398 million was used to calculate an overall European rate of legionella infection of 5.4 cases per million population. Rates reported in European countries in 1999 are shown in the table. The high rates of infection in both Belgium and the Netherlands were accounted for by large community outbreaks linked to whirlpool spas.<sup>1</sup>

The low rate seen in Ireland particularly in comparison to Northern Ireland, Scotland, England and Wales, with whom we share many ecological factors, is one of the issues currently being examined by NDSC's Legionnaires' disease subcommittee. It is interesting that Denmark, a country with a population just over 5 million, has consistently had higher rates of infection than other countries, possibly associated with the fact that it is a small country that carries out high levels of testing for *Legionella* in patients with pneumonia and which has a centralised reference laboratory for diagnosing and reporting cases.

NDSC's Legionnaires' disease subcommittee is currently preparing its consultation document "The Management of Legionnaires' Disease in Ireland" and it is anticipated it will be ready for wider consultation in December 2000.

1. EWGLI (2000). Legionnaires' disease, Europe, 1999. *Eurosurveillance Weekly*;4:001102 (<http://www.eurosurv.org>)

Country	Rate per million
Belgium	19.5
Denmark	16.98
The Netherlands	16.75
Switzerland	10.75
Sweden	9.71
Malta	7.9
Spain	7.76
France	7.6
Scotland*	6.81
Austria	5.13
Italy	4.05
England & Wales*	3.72
Northern Ireland*	2.94
Norway	2.27
Finland	1.76
Ireland	0.55

### North/South Survey of MRSA in Hospitals

The report on the North/South survey of MRSA in hospitals in both the North of Ireland and the Republic of Ireland, conducted in 1999, is now available on: <http://www.doh.ie/whatsnew.html> (Acrobat® Reader™ is needed to access after downloading). This project was supported by the Department of Health and Children in Dublin. This was quite an undertaking and the multi-disciplinary team of microbiologists, infection control nurses, laboratory scientists, public health doctors/epidemiologists and hospital chief executives on both sides of the border gave generously of their time. It took over a year to assess and analyse the data and the report includes the results of molecular, phage and antibiogram-resistogram typing. It was officially launched in July by the respective Ministers for Health in the North and the Republic at a joint meeting in Dublin. It generated quite a lot of interest in the media and following feedback we will be assessing what the lessons are and what needs to be done to improve the situation. **Hilary Humphreys, Beaumont Hospital.**

### Infectious Disease Notifications

On 1<sup>st</sup> July 2000 NDSC the Infectious Diseases (Amendment) Regulations, 2000 (S.I. No 151-2000) came into effect. Under these regulations NDSC, taking over from the Department of Health and Children, was assigned responsibility for the collation and analysis of weekly notifications of infectious diseases. In conjunction with this changeover in responsibility, NDSC sought and obtained the agreement of Departments of Public Health to provide data in disaggregate format. This has enabled NDSC to provide more meaningful information on Infectious Disease notifications, with the result that an eight-page weekly report is now produced, which is circulated to an ever expanding list of health agencies and health professionals, now numbering approximately 100. NDSC would like to acknowledge that the production of this report would not be possible without the dedication and commitment shown by all those involved from each health board.

Such has been the positive feedback on the Weekly Infectious Disease Report that NDSC in consultation with the Departments of Public Health intends to determine how feedback can be further enhanced e.g. the production of monthly and/or quarterly reports in addition to the current weekly report.

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# HIV Infection and AIDS in Ireland

## Introduction

December 1<sup>st</sup> is World AIDS Day. The Human Immunodeficiency Virus (HIV) causes a chronic infection that leads to progressive destruction of the immune system. HIV can be transmitted by sexual contact with an infected person, injecting drug use, vertical transmission (mother to child), accidental needle stick injury and previously through blood products. There is a prolonged period of clinical latency, usually 7-10 years, during which the infected individual may have no symptoms and may be unaware that they are infected. There have been major advances in the treatment of HIV infection resulting in reduced mortality rates and improved quality of life. However, there is still no cure for HIV infection and treatment is life-long. HIV is a preventable infection and its prevention should remain the priority in Ireland.

## HIV surveillance

HIV antibody testing is carried out in laboratories throughout the country with confirmatory tests on all positive sera performed by the National Virus Reference Laboratory (NVRL), Dublin or the Royal Victoria Hospital, Belfast. The HIV surveillance system is based on reports of confirmatory tests, which are collated by the NVRL. To maintain confidentiality, all results are anonymised.

In Ireland, a total of 2,364 persons have tested positive for HIV to 30 June 2000. In recent years there have been between 100 and 140 new cases each year, which is low, compared to other EU countries<sup>1</sup> (table 1). However there is a worrying increase in the annual rates over the past few years, with 209 new cases reported in 1999 and 169 reported in the **first six months** of 2000 (figure 1).

Country	1998 HIV Incidence/million
Ireland	39
United Kingdom	48
France	78
Belgium	73
Denmark	34
Germany	27
Switzerland	90
Italy	94
Norway	22
Finland	16
Sweden	28
Iceland	29
Greece	26

Table 1: 1998 AIDS Incidence per million population, Europe.

Males accounted for 69% of new cases from 1992 to 1998. Since 1993 the proportion of cases in females has increased from 24% to 31%. The median age at diagnosis is 32 years in males and 28 years in females in the above period.

Injecting drug users (IDUs) account for 41.6% of all cases. Sexual transmission is the second most common mode of transmission: homosexual/bi-

sexuals 22.6% and heterosexuals 18.7%. Haemophiliacs accounted for 5.1% of cases. There has been a significant increase in the proportion of cases linked to heterosexual transmission from 13% in 1993 to 29% in 1998.

Over three-quarters (78%) of all cases originated within the Eastern Health Board region and the most common mode of transmission was injecting drug use. Outside the EHB region, the majority of cases were transmitted sexually.

Comparison of numbers of HIV and AIDS cases from 1993 - 2000

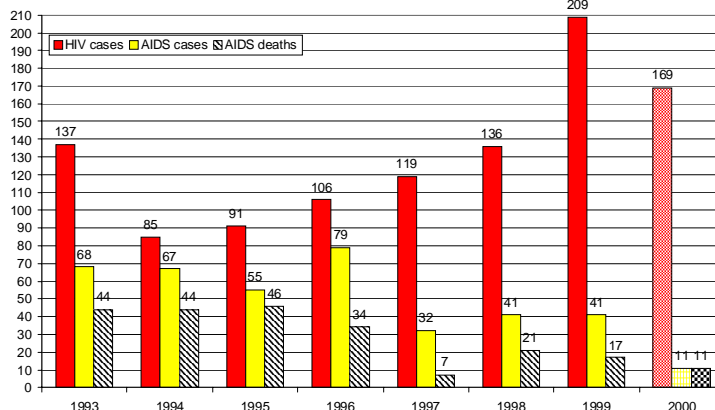


Figure 1: HIV, AIDS and AIDS mortality in Ireland, 1993-2000\* (\*Data for 2000 is January to June 2000).

## Acquired Immune Deficiency Syndrome (AIDS) cases and AIDS mortality

HIV infection is not the same as AIDS. AIDS is an advanced stage of HIV infection consisting of profound immune suppression resulting in opportunistic infections and neoplasia. Reporting of AIDS is based on these nineteen opportunistic diseases<sup>2</sup>.

A total of 702 AIDS cases were reported in Ireland up to 30 June 2000, of which 360 (51.3%) have died. However, the number of new AIDS cases reported has declined since 1997 in parallel with other EU countries. This is largely due to the availability of effective antiviral therapy. Highly active antiretroviral therapy (HAART) is a combination of antiviral agents that inhibit HIV viral replication. Improvement in the immune system follows but it is critically dependent on adherence to drug therapy. Patient adherence to medication is essential to avoid drug resistance similar to treatment of tuberculosis. The ability to adhere to therapy can be influenced by the individual's lifestyle and the tolerability of the medication. Treatment should be individualised for each person to optimise adherence because treatment is life-long.

Other factors that have contributed to the declining incidence of AIDS include antimicrobial prophylaxis for opportunistic infections, improved diagnosis and treatment of opportunistic infections, and immunisation with pneumococcal and hepatitis B vaccines.

The benefits of HAART and antibiotic prophylaxis appear to be sustained to date. There has been no increase in mortality over the past 2 years. However, deaths continue to occur especially in patients with advanced disease at time of diagnosis, patients who have failed HAART and those with co-morbidities such as viral hepatitis. It is estimated that up to 50% may fail HAART over time<sup>3</sup>.

## HIV case based reporting

Epidemiological monitoring of HIV infection in Ireland has, to date, been based on AIDS reporting by clinicians and HIV surveillance operated independently by the laboratory service. AIDS case reporting has been an essential tool for monitoring HIV infection. With the advent of HAART however, trends in AIDS reporting no longer serve as indicators of trends in HIV transmission. It is proposed that the HIV surveillance system at NVRL be transferred to the National Disease Surveillance Centre, with collection of more detailed demographics and risk factor information, and in addition it is proposed to link HIV reporting to AIDS reporting. This will provide information on the demographics and natural history of the infec-

tion, the progression of the infection, prognosis and the impact of treatment of patients. This will eliminate duplication and provide valuable information on prevention strategies.

## Antenatal HIV testing

To ascertain more information on the epidemiology of HIV in the Irish population, unlinked antenatal testing was introduced in October 1992. Screening for HIV was carried out on blood specimens routinely collected for rubella screening. There have been 90 positive HIV tests (25.4 per 100,000 tests), of which 55 were in the EHB region. Figure 2 shows the steady increase in numbers of infected pregnant women up to December 1998. This parallels the increase in heterosexual spread of HIV infection noted above.

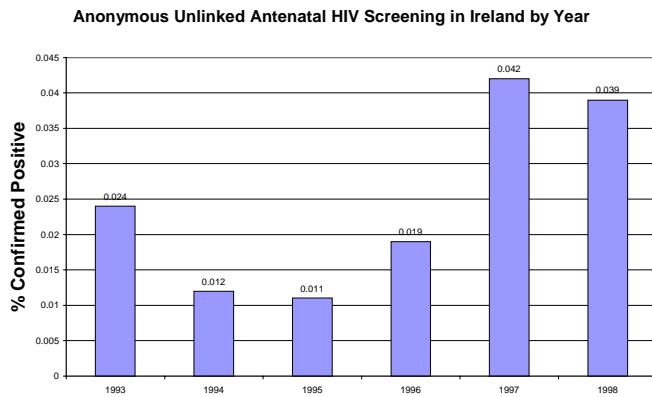


Figure 2: Antenatal HIV seroprevalence in Ireland 1992-8.

There is a 25% risk of transmitting HIV infection from mother-to-child without treatment. HIV infection can be transmitted during pregnancy, labour and through breast-feeding. Antiviral therapy given during pregnancy dramatically reduces the risk of transmission to less than 2%. Treatment appears to be safe. It is standard practice to offer HIV-infected women antiviral therapy during pregnancy. Caesarian section has a protective role in certain situations. The effectiveness of treatment prompted the Department of Health & Children to introduce a policy of universal, voluntary HIV testing in women as part of infectious diseases screening during pregnancy in 1999.

In Ireland, 70 pregnant women who have received HAART have been followed since 1997 to determine the efficacy of therapy. There have been no cases of HIV infection in extended infant follow-up of the 57 infants born to date. Over half of these women (54%) were identified during routine antenatal HIV testing<sup>4</sup>.

## HIV infection and Sexually Transmitted Infections (STI)

HIV and STIs are linked medically and behaviourally. The rising numbers of STIs in Ireland may lead to a further increase in the cases of HIV infection. STIs, in particular gonorrhoea, are indicators for high-risk sexual activity and this raises concerns about complacency regarding safer sexual practices. Certain STIs facilitate the transmission of HIV infection. Detection and treatment of STIs can reduce the risk of this transmission. Prevention of STIs should remain the priority by promoting safer sexual practices amongst the population.

## Conclusion

Ireland, like most other European countries, is experiencing a decline in new cases of AIDS and deaths from AIDS largely due to the

availability of HAART. However, new cases of HIV infection continue to rise with a significant, parallel increase in sexually transmitted infection in this country.

Identification and treatment of HIV infection in pregnant women in a national antenatal-screening programme has dramatically reduced transmission of infection to infants.

Prevention of HIV infection should remain the priority by promoting safer sexual practices and avoidance of illicit drug use.

## References:

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2. 1993 Revised Classification System for HIV Infection and Expanded Surveillance Case Definition for AIDS Among Adolescents and Adults. December 18, 1992 / 41(RR-17)
3. Bartlett J, R Demasi, J Quinn, C Moxham and F Rousseau. Meta-analysis of efficacy of triple combination therapy in antiretroviral-naive HIV-1 infected adults. 7th Conference on Retroviruses and Opportunistic Infections. Abstract 519, February 2000.
4. Clarke S, K Butler, C Bergin, G Sheehan, M Horgan and F Mulcahy. The active management of HIV in pregnancy. 5<sup>th</sup> International Congress on Drug Therapy in HIV infection. Abstract 421. October 2000.
5. AIDS Strategy 2000. Report of the National AIDS Strategy Committee. Department of Health and Children.

**Dr Mary Horgan, Consultant in Infectious Diseases, Cork University Hospital.**

## Key Messages:

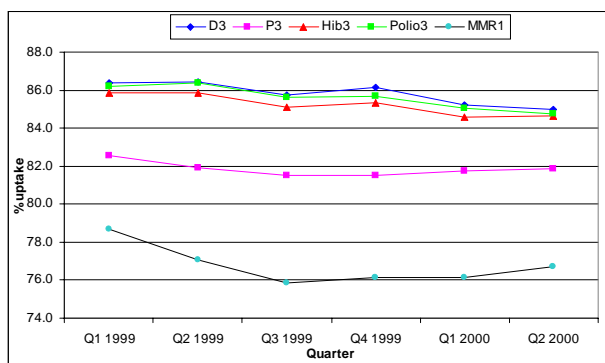
- Major advances in the treatment of HIV infection have been made, reducing mortality rates and improving quality of life.
- In 1999 and 2000 there were worrying increases in the number of newly identified HIV positive individuals.
- Promoting safer sexual practices remains a priority health promotion issue, even in the HAART era.
- HAART is reducing the number of HIV cases progressing to AIDS but does not cure HIV infection.
- Antenatal HIV testing is working - there have been no HIV cases in children of HIV positive mothers identified and treated during pregnancy. Greater than 50% of HIV positive mothers were detected via antenatal screening.
- Three quarters of all HIV diagnoses were made in the EHB region, the most common mode of transmission being injecting drug use, outside that region most cases were transmitted sexually.
- There is a need to improve HIV case-based reporting to provide better information for prevention strategies and understanding the epidemiology of the infection and the impact of treatment.

# IMMUNISATION UPTAKE STATISTICS FOR IRELAND

Only a generation ago, Irish people faced illness, disability and death as a result of infectious diseases that are now largely under control. Diseases like diphtheria and polio are now extremely rare. Cases of *Haemophilus influenzae* type b (Hib) have decreased from 80-100 cases per year to less than 5 cases per year since the introduction of the Hib vaccine in 1992. Despite these successes Ireland lags behind many other developed countries in achieving the high vaccination uptake required to prevent the spread of infectious diseases such as measles, mumps and rubella. When vaccination coverage is low, children are left susceptible to the disease in question. This has been highlighted by the recent measles outbreak in Ireland when 1560 cases of measles were reported in the first ten months of 2000, compared to 147 for the entire year in 1999.

Quarterly national uptake of three doses each of the diphtheria (D<sub>3</sub>), pertussis (P<sub>3</sub>), tetanus (T<sub>3</sub>), *H. influenzae* type b (Hib<sub>3</sub>), polio (Polio<sub>3</sub>) vaccines and one dose of measles, mumps and rubella (MMR1) vaccine in 1999 and up to the second quarter of 2000 are presented in this report. These data relate to uptake in children at 24 months of age. NDSC would like to thank the Department of Health & Children for forwarding these data for analysis and each of the health boards for providing data in the first instance. From the third quarter of this year health boards will provide data directly to NDSC.

Overall, there has been a slight decrease in uptake rates among 24-month old children in the first two quarters of 2000 compared with previous quarter cohorts in 1999 (Figure 1 & Table 1). Uptake of D<sub>3</sub> and T<sub>3</sub> has declined from 86% in Quarter 1 and 2 of 1999 to 85% in the same periods of 2000. P<sub>3</sub> uptake has remained largely unchanged at 82%. There has also been a downward trend in uptake of Hib<sub>3</sub>, Polio<sub>3</sub> and MMR1 in Quarter 1(Q1) and 2 (Q2) of 2000, compared to the same periods last year. However, MMR1 uptake had increased from 76.1% in Q1 2000 to 76.7% for Q2 2000. Over the 18 month period quarterly uptake of any of the vaccines did not reach 95%. The highest national uptake figure recorded was for D<sub>3</sub> and T<sub>3</sub> in Q2 of 1999 at 86.5%, while the lowest was for MMR1 in Q3 of 1999 at 75.8%.



**Figure 1.** Quarterly national immunisation uptake levels for diphtheria, pertussis, Hib, polio and MMR at 24 months.

Immunisation Uptake (%) at 24 months - Quarterly Data						
	D <sub>3</sub>	P <sub>3</sub>	T <sub>3</sub>	Hib <sub>3</sub>	Polio <sub>3</sub>	MMR1
Q1 1999	86.4	82.6	86.4	85.9	86.2	78.7
Q2 1999	86.5	81.9	86.5	85.8	86.4	77.1
Q3 1999	85.7	81.5	85.7	85.1	85.7	75.8
Q4 1999	86.1	81.5	86.1	85.3	85.7	76.2
Q1 2000	85.2	81.8	85.2	84.6	85.0	76.1
Q2 2000	85.0	81.9	85.0	84.6	84.7	76.7

**Table 1.** Quarterly national immunisation uptake levels for diphtheria, tetanus, pertussis, Hib, polio and MMR at 24 months.

The national MMR1 uptake at 24 months for 1999 and so far for 2000 was 76.9% and 76.4% respectively (Table 2). This is far less than the target level of 95%. In 1999 MMR1 uptake ranged from 70.1% (MHB) to 86.6% (SEHB), while in 2000 (Q1+Q2) it range from 72.7% (MWHB) to 87.5% (SEHB).

Uptake levels in Ireland compare badly with Northern Ireland levels<sup>1</sup>. In Northern Ireland immunisation uptake for diphtheria, pertussis and Hib continue to exceed the target of 95% uptake. This coverage is at least 10% greater than the south of the country. In the case of MMR, uptake in the second quarter of 2000 was 92.7% in Northern Ireland, compared to a disappointing 77% in Ireland.

Immunisation programmes in the Republic need strengthening. A coalition for immunisation with input from the public, parents and all partners advocating immunisation has helped in some countries. It is time to mobilise such an effort here. Further research is needed to explore attitudes of parents in Ireland and discover why uptake has not been as high as in other parts of Europe.

**Dr. Margaret Fitzgerald and Dr. Darina O'Flanagan, NDSC.**

<sup>1</sup>Communicable Diseases Monthly Report, Northern Ireland Edition. October 2000, Vol. 9 (No. 9).

% MMR1 uptake at 24 months		
	1999	2000*
ERHA	76.6	74.3
MHB	70.1	72.9
MWHB	72.9	72.7
NEHB	78.3	79.9
NWHB	74.6	73.0
SEHB	86.6	87.5
SHB	72.5	74.3
WHB	82.5	81.7
ROI	76.9	76.4

**Table 2.** Levels of MMR uptake by health board in 1999 and 2000\*

\* 2000 levels based on Quarter 1 and 2 data only

## Oireachtas Hearings:

The Joint Oireachtas Committee on Health and Children recently received 80 written submissions after inviting interested parties to convey their views and experiences on child vaccination. On November 23rd, it began hearing selected oral submissions. The process is expected to continue for some weeks.

## Salmonella Monthly Report (October):

Strains are allocated to months based on the date of receipt of the isolate from the referring laboratory. These figures are provisional as work may not be finished on particular strains at the time of publication. Data are provided courtesy of Prof Martin Cormican and Dr Geraldine Corbett-Feeney, INSRL.

Health Board	E	M	MW	NE	NW	SE	S	W	Total
S. Typhimurium	6	0	1	1	1	1	2	2	14
S. Enteritidis	7	2	4	2	1	1	1	0	18
S. Agona	0	0	0	0	0	0	0	2	2
S. Anatum	1	0	0	0	0	0	0	0	1
S. Blockley	1	0	0	0	0	0	0	0	1
S. Bredeney	0	0	0	0	0	0	0	1	1
S. Dublin	0	0	0	0	0	0	0	1	1
S. Give	1	0	0	0	0	0	0	0	1
S. Hadar	3	0	0	0	0	0	0	1	4
S. Halfa	1	0	0	0	0	0	0	0	1
S. Kentucky	1	0	0	0	0	0	0	0	1
S. Manhattan	0	0	1	0	0	0	0	0	1
S. Mbandaka	1	0	0	0	0	0	0	0	1
S. Schwarzengrund	1	0	0	0	0	0	0	0	1
Total	23	2	6	3	2	2	3	7	48